



Australian Government

AVIY0027 Operate multi-rotor remote pilot aircraft systems

Release: 1

AVIY0027 Operate multi-rotor remote pilot aircraft systems

Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation Training Package.

Application

This unit involves the skills and knowledge required to operate multi-rotor remote pilot aircraft systems (RPAS) in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes operating and managing multi-rotor RPAS during normal flight and during abnormal and emergency procedures.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to equipment and system operations of flight or ground operations personnel and contributes to safe and effective performance in complex aviation operational environments.

Operations are conducted as part of recreational, commercial and military aircraft activities across a variety of operational contexts within the Australian aviation industry.

Work is performed independently or under limited supervision within a single-pilot or multi-crew RPAS environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft operation

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential Performance criteria describe the performance needed to

outcomes.

demonstrate achievement of the element.

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|---|---|
| 1 Operate and manage multi-rotor RPAS during normal flight | 1.1 RPAS, sub-systems and devices are operated to achieve operational requirements |
| | 1.2 RPAS, sub-systems and devices are monitored using a systematic scan technique |
| | 1.3 RPAS and flight environment information is analysed to identify actual and potential threats or errors |
| | 1.4 Aircraft and systems inspection is completed prior to flight |
| | 1.5 Launch, landing and emergency hover zones are established |
| | 1.6 RPAS automation is utilised to manage control station workload |
| | 1.7 Checklist procedures are implemented during normal RPAS operations |
| 2 Manage multi-rotor RPAS during abnormal and emergency procedures | 2.1 Abnormal or emergency situations are identified, diagnosed and communicated |
| | 2.2 RPAS control is maintained at all times |
| | 2.3 RPAS abnormal or emergency checklist procedures are implemented to maintain safety of flight |
| | 2.4 Course of action is decided, implemented, evaluated and revised to achieve safest outcomes |
| | 2.5 Location and operation of emergency systems applicable to RPAS are explained |

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work

environment.

Unit Mapping Information

No equivalent unit

Links

AVI Training Package Companion Volume Implementation Guide available on VET Net: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816>

Assessment Requirements for AVIY0027 Operate multi-rotor remote pilot aircraft systems

Modification History

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions on at least one occasion and include:

- adapting to differences in equipment and operating environment in accordance with standard operating procedures (SOPs)
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant legislation and workplace procedures
- completing relevant documentation
- identifying and correctly using relevant equipment
- implementing work health and safety (WHS) procedures and relevant regulations
- interpreting remote pilot aircraft systems (RPAS) displays
- modifying activities depending on workplace contingencies, situations and environments
- monitoring and anticipating operational problems and hazards and taking appropriate action
- operating electronic communications equipment to required protocol
- performing systematic scan technique for monitoring multi-rotor RPAS, sub-systems (equipment) and devices
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- undertaking fault finding in multi-rotor RPAS
- using automated systems to manage workload
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions and include knowledge of:

- aeronautical decision-making processes relevant to multi-rotor RPAS operations
- effective communication
- risk identification, analysis and control in relation to multi-rotor RPAS operations
- flight environment information, including:

- head-up display (HUD) suitable for flight
- multi-rotor RPAS control systems suitable for flight indications, including height, speed, direction and location
- RPAS as applicable to rating/endorsement requirements in relation to multi-rotor RPAS type if relevant
- risk identification, analysis and control in relation to multi-rotor RPAS operations
- autorotation principles
- gyroscopic principles
- RPAS components, including location and function of electrical parts
- aerodynamics – multirotor lift and drag, hovering and forward flight
- aerodynamics – abnormal operations
- principles of operation – flight controls
- RPAS as applicable to rating/endorsement requirements in relation to multi-rotor RPAS type if relevant
- battery/fuel/power system, including:
 - likely faults that may affect battery/fuel/power system
 - emergency operating procedures for battery/fuel/power system
 - operation of battery/fuel/power selector panel or display full battery/fuel capacity and fuel grade
- electrical system, including:
 - likely faults that may affect electrical system
- detection and avoidance systems, including:
 - surveillance and collision avoidance functions of detection and avoidance systems
 - system limitations
 - ‘return to home’ failsafe function
 - control link corruption the loss of command and control link procedures in accordance with the RPAS operator’s documented practices and procedures
 - safe forced landing and collision avoidance
- automated systems, including:
 - limitations of automated systems.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy

requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- acceptable means of simulation assessment
- applicable documentation, including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment (PPE) currently used in industry.

Links

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<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816>